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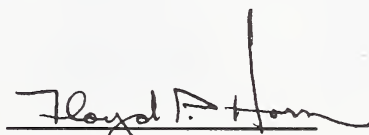
Agricultural Research Service
United States Department of Agriculture

Agricultural Research Service Science Hall of Fame

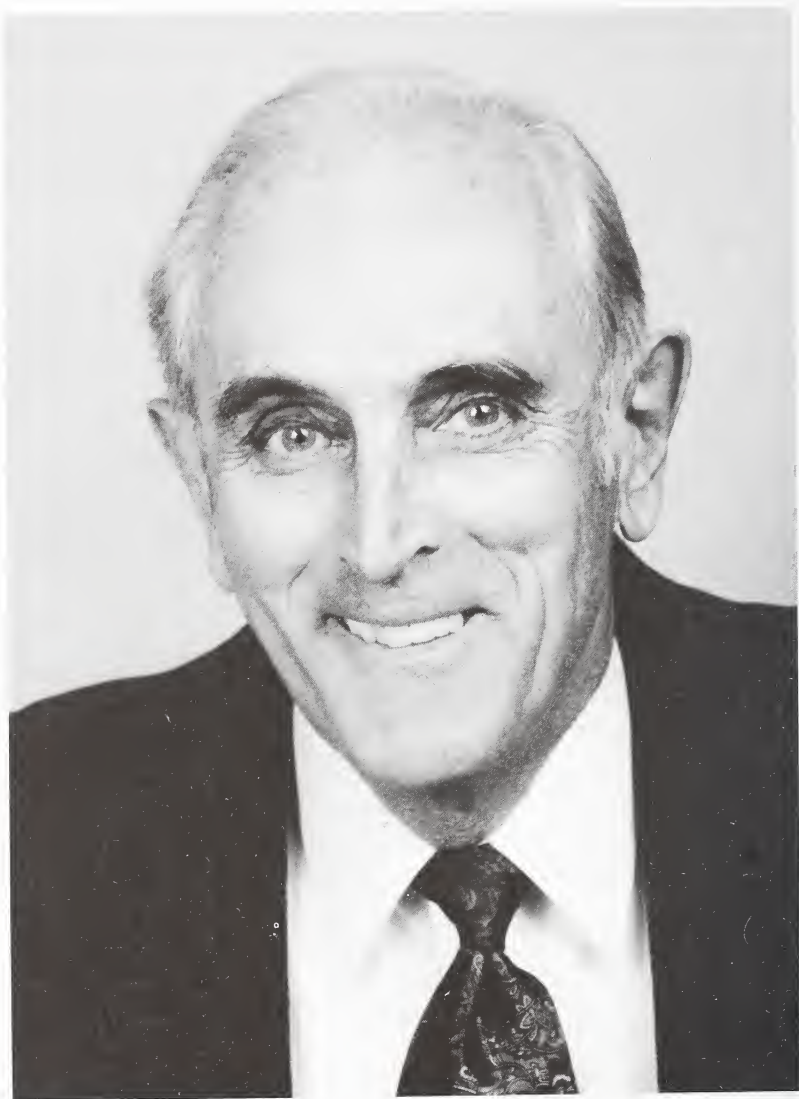
The ARS Science Hall of Fame was inaugurated in 1986. We determined that each succeeding year, one or more present or former scientists with the Agricultural Research Service could be selected, subject to the following criteria:

- The selectee made a major impact on agricultural research, either by the solution of a significant agricultural problem through research or by providing outstanding leadership that significantly advanced agricultural research.
- The selectee is a person whose accomplishments are still recognized by the agricultural research community.
- The selectee's character and record of achievement are worthy of emulation by younger agricultural scientists.
- The selectee's achievements must be or have been nationally or internationally recognized by peers in the scientific community.

Today we honor two outstanding scientists by inducting them into the Science Hall of Fame. A plaque citing the achievements of each will be on permanent display in the ARS National Visitor Center at the Beltsville Agricultural Research Center.



Floyd P. Horn
Administrator



1998

Thomas J. Henneberry

Laboratory Director

Western Cotton Research Laboratory

Phoenix, Arizona

For conducting basic and applied individual and team research that has had sustained global impact on development and implementation of integrated pest management systems.

Thomas J. Henneberry is internationally recognized for his work in pest management. His research on cotton and other pests integrates biology, insect behavior, pesticide resistance, ecology, pathology, biocontrol, cultural and chemical control, radiation biology, host-plant resistance, and other disciplines. His research in understanding the ecology, biology, and control of cotton bollworm, tobacco budworm, pink bollworm, boll weevil, sweetpotato whitefly, and other pests have resulted in significant contributions to pest management systems worldwide.

Henneberry's research on spider mites is still a model for developing strategies for integrated pest management. His research on reproductive biology and mating behavior of numerous pests has established parameters for broad-scale use of pheromones to suppress insect populations. Basic and applied research on radiation biology of insect and mite pests, along with ancillary research, has led to large-scale sterile-insect release programs with a number of insect species.

These accomplishments have generated the possibility of controlling highly mobile, polyphagous insects over broad areas rather than field by field.

Most recently, Henneberry cochaired a USDA-university task force on the sweetpotato whitefly, a recently introduced vector of serious plant diseases. This task force organized cooperative research involving federal, state, and private institutions and is considered a model for comprehensive multi-institution programs.

Henneberry has been with USDA since 1951. He was named ARS Distinguished Scientist of the Year in 1990 for his sustained research and leadership. In 1997, he received the USDA Honor Award for "Sustained Outstanding Leadership and Contributions in Developing Integrated Pest Management Concepts and Implementing National Research Programs for the Pink Bollworm and Other Cotton Insect Pests." He was elected to the Washington Academy of Science in 1961. Henneberry has written more than 390 scientific papers, plus many special and popular publications.



James H. Tumlinson III

Research Leader

Insect Chemistry Research Unit

Gainesville, Florida

For research that led to eradication of the boll weevil from the southeastern United States and the discovery of the chemical basis of plant-insect-parasite interaction.

James H. Tumlinson III is a pioneer in the discovery of insect pheromones. His research career, which began in 1964, has been devoted to the chemistry of insect olfaction and behavior and has entailed studying some of the most difficult and most important pheromones.

Tumlinson identified the sex pheromones of the cotton boll weevil and coordinated the interdisciplinary team that isolated, identified, and synthesized the four terpenoids of this pheromone. This work led to the development of one of the primary methods for eradicating the boll weevil. He also provided leadership in the identification of pheromones from over 40 species in 13 families of insects of considerable economic importance, including the clearwinged moth, Japanese beetle, tobacco hornworm, and fall and beet armyworm moths.

Tumlinson's unusual combination of talents in microchemistry and behavioral analysis has provided new ways of looking at the chemical defenses of plants. Tumlinson found that in response to insect attack, some plants release chemicals that attract parasitic wasps to attack the plant's enemies. Other research elucidated the roles that learning and odors play in the foraging behavior of beneficial insect parasitoids.

Tumlinson founded the chemistry research group at ARS's Center for Medical, Agricultural, and Veterinary Entomology in Gainesville, Florida. With his research team, Tumlinson developed new techniques in microchemical analysis. He has 200 publications and patents on isolation, identification, biosynthesis, synthesis, formulation, and biological evaluation of insect pheromones and other semiochemicals.

Tumlinson is a fellow of the U.S. National Academy of Sciences and the Entomological Society of America. Among his honors are two USDA Superior Service Awards and the 1984 ARS Outstanding Scientist of the Year. He recently served as president of the International Society of Chemical Ecology and is an adjunct professor at the University of Florida.

ARS Science Hall of Fame

1986

Edward F. Knipling

For pioneering research and leadership in development of the sterile insect technique, which led to the eradication of the screwworm, and of other technologies to suppress and manage insect pests.

1987

Howard L. Bachrach

For pioneering research on the molecular biology of foot-and-mouth disease that led to development of the world's first effective subunit vaccine for any disease of animals or humans through the use of gene splicing.

Myron K. Brakke

For consistent, career-long valuable contributions to the science of virology, particularly plant virology.

Glenn W. Burton

For outstanding achievements in forage and turf science, which have had extraordinary effects on the forage-based cattle industry, the turf industry, and agriculture worldwide.

Wilson A. Reeves

For outstanding research and leadership in the field of textile chemical finishing that have significantly benefited agriculture and consumers.

Ernest R. Sears

For pioneering work in wheat genetics and for discoveries on chromosomal mechanisms that established standards in animal, plant, and human genetics.

Orville A. Vogel

For development of the first useful semidwarf wheats and of innovative production systems that made the Pacific Northwest a major source of soft white wheat, inspired similar research efforts throughout the world, and sparked the Green Revolution.

Cecil H. Wadleigh

For elucidating the mechanisms through which crops respond to salinity and water stress and for inspired planning and leadership that enabled and motivated those who worked with him to expand and make use of knowledge of soils, water, and air and their interactions with plants.

1988

Francis E. Clark

For outstanding research leading to greater understanding of soil, plant, and microbial interactions and of nutrient cycling in terrestrial ecosystems.

Edgar E. Hartwig

For research in soybean breeding and genetics that has been a major factor in soybeans becoming the second most valuable U.S. crop and particularly for developing cultivars that thrive in the South.

Ralph E. Hodgson

For significant contributions to the knowledge of ruminant nutrition and for visionary leadership, both domestic and international, in the animal industries.

Hamish N. Munro

For career-long contributions to the science of nutrition, particularly on the relationship of dietary protein and iron to the health of the elderly, and for promotion of studies on aging.

Jose Vicente-Chandler

For research leading to new and greatly improved production systems for beef, milk, coffee, plantains, and rice for Puerto Rico and Caribbean countries.

1989

Douglas R. Dewey

For world leadership in genetics and taxonomy of the Triticeae tribe of grasses and for development of the cytogenetic basis for creating new grass hybrids.

Theodor O. Diener

For conceptualizing and discovering viroids, for leading research on viroid detection and control, and for inspiring new approaches in the search for causes of several serious diseases affecting plants, livestock, and humans.

Karl H. Norris

For developing principles and instruments using the electromagnetic wave spectrum to make rapid nondestructive measurements for evaluating quality of agricultural products.

John F. Sullivan

For engineering contributions to the food-processing and preservation industries, including development of instant potato flakes and of batch and continuous-explosion puffing.

1990

Theodore C. Byerly

For extraordinary contributions as a scientist, research leader, and administrator to the success of agricultural research programs and advances in U.S. and world agriculture.

Gordon E. Dickerson

For research contributions widely used by breeders to increase production efficiency of cattle, sheep, swine, and poultry.

Robert W. Holley

For isolation and characterization, including the first nucleotide sequence, of transfer ribonucleic acid (tRNA).

Virgil A. Johnson

For outstanding contributions to development of superior bread wheat cultivars and of improved wheat germplasm and for vigorous promotion of national and international cooperation among wheat breeders.

George F. Sprague

For outstanding contributions to effective methods of hybrid corn breeding and germplasm improvement.

1991

John H. Weinberger

For outstanding lifelong contributions in development of fruit varieties and fruit-breeding technology.

Walter H. Wischmeier

For developing the Universal Soil Loss Equation, which has been widely used for three decades worldwide in conservation and management of our natural resources.

1992

Raymond C. Bushland

For pioneering research leading to screwworm eradication by the sterile insect technique and for research leading to control of typhus vectors.

Lyman B. Crittenden

For significant contributions to retroviral genetics, transgenic animal development, and genome mapping in poultry.

Arnel R. Hallauer

For increasing understanding and use of quantitative genetics in plant breeding, which has led to development of many superior corn hybrids worldwide.

1993

John R. Gorham

For scientific leadership and studies that have resulted in solutions of disease control problems and have advanced the basic knowledge of viral and genetic diseases in humans and animals.

Sterling B. Hendricks

For significant contributions as a chemist, physicist, mathematician, plant physiologist, geologist, and mineralogist.

Clair E. Terrill

For scientific contributions and worldwide leadership in sheep production research.

1994

Charles N. Bollich

In recognition of superlative accomplishments in rice breeding and genetics and their consequent benefits to American agriculture.

Chester G. McWhorter

For outstanding contributions to American agriculture through basic and applied research that has resulted in improved weed-management technology, increased yields, and reduced cost of production.

Malcolm J. Thompson

*For career research contributions in the field of
insect and plant steroid biochemistry.*

1995

Harry Alfred Borthwick

*In recognition of contributions in elucidation of photoperiodic
mechanisms controlling flowering in plants.*

William M. Doane

*For initiating, leading, and conducting research that created new
and useful products and led to the establishment of new
industries based on agricultural raw materials.*

Walter Mertz, M.D.

*For contributions and leadership in elucidating the importance to
health of several trace elements and promoting research on
dietary risk factors for chronic disorders.*

1996

Fred W. Blaisdell

*For pioneering research and development of improved
structures for soil and water conservation.*

Herbert J. Dutton

*For pioneering research leading to the establishment of soybean oil
as the predominant edible vegetable oil in the world.*

Charles Jackson Hearn

*For developing improved orange, grapefruit, and tangerine
varieties used extensively by U.S. citrus producers
to replace trees killed by the 1980 freezes and
to expand the citrus acreage.*

1997

Morton Beroza

*For major contributions to the development of environmentally
compatible insect-control strategies through discovery of lures,
attractants, repellents, and pheromones.*

R. James Cook

For extraordinary research on sustainable approaches to improve wheat health and for leadership in the transfer of information and technology resulting in solutions to agricultural problems.

William L. Ogren

For outstanding leadership and fundamental contributions to photosynthetic carbon metabolism leading to the discovery of new opportunities to improve the efficiency and productivity of crop plants.

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